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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,901	12/16/2003	Shuji Nagano	1472-0311P	3910

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EXAMINER

CORRIGAN, JAIME W

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,901

Applicant(s)

NAGANO, SHUJI

Examiner

Jaime W Corrigan

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Amendment filed on 16 September 2004. Claims 1-4 have been amended. Claims 5-9 have been added. Overall, claims 1-9 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Vorih et al. (PN 6,321,701).

Regarding claim 1 Vorih discloses a variable valve control mechanism (See Figure 4 (110), (130), Abstract) for providing control to selectively open and close intake valves or exhaust valves according to supply/release of pressurized oil from an oil pressure source (See Figure 4 (550)) via an oil channel; and an accumulator (See Figure 4 (302)) provided upstream (See Column 10 Lines 46-51) of said variable valve control mechanism, said accumulator having a body (See Figure 4 (310), (320)), a portion (See Figure 4 (320)) of which is inserted into and fixed in a hole formed in a cylinder head of the internal combustion engine, said accumulator being provided for accumulating (See Column 10 Lines 41-62) pressurized oil supplied to said variable valve control mechanism.

Regarding claim 2 Vorih discloses said body of said accumulator is cylindrical (See Figure 4 (310), (320)) and vertically fixed to the cylinder head at a lower part of said body, said accumulator further including: a piston (See Figure 4 (310)) adapted to slide in contact with an inner peripheral surface of said body, and a spring (See Figure 4 (320)) that urges said piston downward, wherein said accumulator is operable when accumulating pressurized oil, for pushing up (See Figure 4 (540)) said piston against a force of said spring by pressurized oil, and is operable when releasing (See Figure 4 (570)) pressurized oil, pushing down said piston by a force of said spring (See Figure 4 (504)); and wherein an upper part of said body is disposed in vicinity of an inner wall of a head cover for the cylinder head.

Regarding claim 3 Vorih discloses a length of a gap formed between the upper part of said body (See Figure 4 (300)) and the inner wall of the head cover (See Figure 4 (501)) is shorter than a length of the lower part of said body vertically fixed to the cylinder head.

Regarding claim 4 Vorih discloses the lower part of said body fixed to the cylinder head includes a screw part (See Figure 4 (300)).

Regarding claim 5 Vorih discloses a filter (See Figure 4 (520)) disposed upstream of said accumulator.

Regarding claim 6 Vorih discloses said variable valve control mechanism selectively switches between a low-speed (See Figure 4 (410)) cam and a high-speed cam for opening/closing an intake valve (See Figure 4 (140)) or an exhaust valve (See Figure 4 (140)).

Regarding claim 7 Vorih discloses said portion of said body is screwed into said hole (See Figure 4 (302)).

Regarding claim 8 Vorih discloses said portion of said body (See Figure 4 (320)) is fixed in said hole to bring said body into communication with an upstream (See Figure 4 (550)) oil channel via an accumulation (See Figure 4 (504)) channel.

Regarding claim 9 Vorih discloses said accumulation channel (See Figure 4 (504)) and said upstream (See Figure 4 (550)) oil channel collectively supply pressurized oil to said variable valve control mechanism (See Figure 4 (110), (130), Abstract).

Response to Arguments

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 3748

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Diehl et al. (PN 6321703), Hu (PN 6,244,257), Letsche (PN 6167853), Egan III et al. (PN 6,112,710), Vorih (PN 6,085,705), Albanello et al. (PN 6,053,136), Paul et al. (PN 5,806,474), Scharnweber, (PN 5,682,846), Cosma et al. (PN 5,619,965), Meister et al. (PN 5,421,359), Rembold et al. (PN 5,263,441) disclose similar valve systems.

Any inquiry concerning this communication from the examiner should be directed to Examiner Jaime Corrigan whose Carlyle telephone number is (571) 272-4858. The examiner can normally be reached on Monday - Friday from 8:30 a.m. – 6:00 p.m. 2nd Friday off.

Art Unit: 3748

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (571) -272-4859. The fax number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-3700.

JC

Jaime Corrigan

Jaime Corrigan
Patent Examiner

December 12, 2004

Art Unit 3748

Ths Den

THOMAS DEMON
SUPERVISORY PATENT EXAMINER
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